

METHOD AND APPARATUS FOR TURBO ENCODING AND DECODING**ABSTRACT OF THE INVENTION**

A digital processing apparatus and method for executing a turbo coding routine. The apparatus and method includes adapting a turbo coding algorithm for execution by one or more reconfigurable processing elements from an array of processing elements, and then mapping the adapted algorithm onto the array for execution. A method includes configuring a portion of an array of independently reconfigurable processing elements for performing a turbo coding routine, and executing the turbo coding routine on data blocks received at the configured portion of the array of processing elements. An apparatus includes an array of interconnected, reconfigurable processing elements, where each processing element is independently programmable with a context instruction. The apparatus further includes a context memory for storing and providing the context instruction to the processing elements, and a processor for controlling the loading of the context instruction to the processing elements, for configuring a portion the processing elements to perform the turbo coding routine.